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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,969	02/05/2002	Richard D. Reohr JR.	069563.0103	1528
5073	7590	12/12/2005	EXAMINER	
BAKER BOTTS L.L.P.			MARCELO, MELVIN C	
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DALLAS, TX 75201-2980			2662	

DATE MAILED: 12/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/071,969

Applicant(s)

REOHR ET AL.

Examiner

Melvin Marcelo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,5,6,12,17 and 18 is/are allowed.
- 6) ☒ Claim(s) 1-4,7-10,13-16,19 and 20 is/are rejected.
- 7) ☒ Claim(s) 12 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: Applicant should replace the paragraph and supply the missing serial numbers for the applications cited on page 1 of the specification.

Appropriate correction is required.

Claim Objections

2. Claims 12 and 18 are objected to because of the following informalities: Claims 12 and 18 are corresponding method and logic claims, respectively, of system claim 6. In system claim 6, the first level performs the recited functions (see below). Neither claims 12 and 18 recite that the process steps are done at the first level. It is not clear whether this is an inadvertent omission by the applicant or intentional. While explicit in claim 6, the last two process steps in the claims 12 and 18 appear to implicitly require that the process steps are done at the first level since these particular steps mention other processing at the second level. Applicant should clarify whether the claims are written as intended. Appropriate correction is required.

Claims

6, *The system of Claim 1, wherein the packet processor comprises a forwarding system comprising a first level and a second level, **the first level operable to:***
 compare a packet destination address of a first data packet to an entry
destination address;
 assign a port identifier if the packet destination address matches the entry
destination address;
 transmit the data packet to an entry of the second level in response to the
comparison; and
 process a second data packet substantially when the second level processes the
first data packet.

12. *The method of Claim 7, further comprising:*

receiving a first data packet at a forwarding system comprising a first level and a second level;

comparing a packet destination address of the first data packet to an entry destination address;

assigning a port identifier if the packet destination address matches the entry destination address;

transmitting the first data packet to an entry of the second level in response to the comparison; and

processing a second data packet substantially when the second level processes the first data packet.

18. The logic of Claim 13, further operable to:

receive a first data packet at a forwarding system comprising a first level and a second level;

compare a packet destination address of the first data packet to an entry destination address;

assign a port identifier if the packet destination address matches the entry destination address;

transmit the first data packet to an entry of the second level in response to the comparison; and

process a second data packet substantially when the second level processes the first data packet.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 7-10, 13-16, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furner et al. (US 5,974,474 A) in view of Pinault (US 5,949,656 A).

Furner et al. (US 5,974,474 A) teaches the most relevant prior art wherein hardware devices that includes cards (column 1, lines 39-50) with multiple protocols are inserted into a card slot on a bus (Figures 1A and 1B, and column 4, lines 9-20) and an identification mechanism identifies the protocol of the inserted card (column 19, line 54 to column 20, line 11) while a configuration mechanism establishes the link (column 20, lines 12-28). Furner suggests using available hardware devices including a plurality of known cards (column 1, lines 39-50), but does not mention a paddle card. A skilled artisan would have been motivated to use known cards in Furner's system. Pinault (US 5,949,656 A) is a teaching of a paddle card (column 1, lines 49-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the known paddle card as taught by Pinault into Furner's system for the reason that Furner explicitly suggests using known hardware devices such as cards.

With respect to the claims below, references to the prior art appear in parenthesis.

Claims

1. ***A system for processing a data packet (Furner, the hardware device is a network interface card for connecting to a network (column 7, line 58 to column 8, line 3), wherein networks such as Ethernet (Figure 3D, #388) communicate using packets), comprising:***

a paddle card slot (Furner provides card slots to receive hardware devices (column 4, lines 13-15) and suggests a plurality of known card types (column 1, lines 39-50), wherein a skilled artisan would have been motivated by Furner's suggestion to incorporate the known paddle card taught by Pinault (column 1, lines 49-67)) operable to:

receive a first paddle card operable to support a first communication protocol (Furner Figure 1B, hardware devices 148 can have various protocols identified by the hardware instance 150) ; and

receive a second paddle card operable to support second communication protocol (Furner Figure 1B, hardware devices 148 can have various protocols identified by the hardware instance 150); and

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a packet processor (Furner Figure 1A, Processor 102 is coupled to Network Interface Card 112 in the slot on Primary I/O Bus 105) coupled to the paddle card slot and operable to:

determine whether a received paddle card comprises the first paddle card or the second paddle card (Identification and Configuration System 119 is in the Run-Time Memory 101 associated with the Processor 102, Figures 1A and 1B and determines the type of hardware device/card based on the Hardware Instance 150, Figure 1B);

identify the communication protocol supported by the received paddle card (Figure 5, Identification and Configuration mechanisms 501 and 502 identifies and configures the protocol for the card (column 19, line 54 to column 20, line 27; and column 28, line 60 to column 29, line 38));

receive a plurality of data packets from the received paddle card (Hardware device is a network interface card which receives packets from a network (column 7, line 58 to column 8, line 3) and the packets are communicated to the Processor 102 (column 10, lines 1-9));

process the data packets according to the identified communication protocol (Configuration mechanism binds the appropriate protocol to the network interface card (column 7, lines 65-66) wherein the packets are processed according to the bound protocol); and

transmit the data packets to a switch card (Figure 1A, the Bus Controllers 108, 109 and 110 are switch cards since they provide the switching functions between the various buses and the Network Interface Card 112, and are mounted on a printed circuit board (column 1, lines 20-27) which is interpreted as a card).

2. *The system of Claim 1, wherein the packet processor (Processor 102 in Figure 1A) is operable to;*

receive a plurality of data packets from the switch card (Bus Controller 108 and 109 are switch cards for communicating packets between the CPU-Memory Bus 104 and the Primary I/O Buses including the bus coupled to the Network Interface Card 112);

process the data packets according to the identified communication protocol (Processor 102 processes data according to the bound protocol ((column 7, lines 65-66)); and

transmit the data packets to the received paddle card (Network Interface card 112 provides bi-directional communication with a network wherein packets are both received and transmitted).

3. *The system of Claim 1, wherein the packet processor comprises a receiving control unit operable to establish a link operable to communicate the data packets according to the identified communication protocol (Identification and Configuration System 119 and Drivers 121 in Run-Time Memory 101 provides the receiving control unit for establishing a link according to the identified protocol ((column 20, lines 5-28)).*

4. *The system of Claim 1, wherein the packet processor comprises a receiving control unit (Identification and Configuration System 119 and Drivers 121 in Run-Time Memory 101 associated with the Processor 102 provides the receiving control unit for establishing a link according to the identified protocol ((column 20, lines 5-28)) comprising:*

a first protocol state machine operable to establish a link operable to support the first communication protocol (Drivers are protocol state machines since they drive the transmission and reception of packets depending on their current state --idle, transmit or receive); and

a second protocol state machine operable to establish a link operable to support the second communication protocol (Drivers are protocol state machines since they drive the transmission and reception of packets depending on their current state --idle, transmit or receive), the receiving control unit operable to select the first protocol state machine or the second protocol state machine to establish a link operable to support the identified communication protocol (Identification and Configuration mechanisms 501 and 502 which are part of the receiving control unit selects the appropriate driver (column 20, lines 5-28)).

7. *A method for processing a data packet, comprising:*
receiving a paddle card comprising a first paddle card operable to support a first communication protocol or a second paddle card operable to support a second communication protocol (Furner provides card slots to receive hardware devices (column 4, lines 13-15) and suggests a plurality of known card types (column 1, lines 39-50), wherein a skilled artisan would have been motivated by Furner's suggestion to incorporate the known paddle card taught by Pinault (column 1, lines 49-67));

identifying the communication protocol supported by the received paddle card (Figure 5, Identification and Configuration mechanisms 501 and 502 identifies and configures the protocol for the card (column 19, line 54 to column 20, line 27; and column 28, line 60 to column 29, line 38));

receiving a plurality of data packets from the received paddle card (Hardware device is a network interface card which receives packets from a network (column 7, line 58 to column 8, line 3) and the packets are communicated to the Processor 102 (column 10, lines 1-9));

processing the data packets according to the identified communication protocol (Configuration mechanism binds the appropriate protocol to the network interface card (column 7, lines 65-66) wherein the packets are processed according to the bound protocol); and

transmitting the data packets to a switch card (Figure 1A, the Bus Controllers 108, 109 and 110 are switch cards since they provide the switching functions between the various buses and the Network Interface Card 112, and are mounted on a printed circuit board (column 1, lines 20-27) which is interpreted as a card).

8. *The method of Claim 7, further comprising:*

receiving a plurality of data packets from the switch card (Bus Controller 108 and 109 are switch cards for communicating packets between the CPU-Memory Bus 104 and the Primary I/O Buses including the bus coupled to the Network Interface Card 112);

processing the data packets according to the identified communication protocol (Processor 102 processes data according to the bound protocol ((column 7, lines 65-66)); and

transmitting the data packets to the received paddle card (Network Interface card 112 provides bi-directional communication with a network wherein packets are both received and transmitted).

9. *The method of Claim 7, further comprising establishing a link operable to communicate the data packets according to the identified communication protocol* (Identification and Configuration System 119 and Drivers 121 in Run-Time Memory 101 provides the receiving control unit for establishing a link according to the identified protocol ((column 20, lines 5-28)).

10. *The method of Claim 7, further comprising selecting a first protocol*

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state machine or a second protocol state machine (Drivers are protocol state machines since they drive the transmission and reception of packets depending on their current state -- idle, transmit or receive) to establish a link operable to support the identified communication protocol (Identification and Configuration mechanisms 501 and 502 which are part of the receiving control unit selects the appropriate driver (column 20, lines 5-28)), the first protocol state machine operable to establish a link operable to support the first communication protocol, the second protocol state machine operable to establish a link operable to support the second communication protocol (The selected driver establishes the link operable according to the appropriate protocol).

13. *Logic for processing a data packet, the logic encoded in media and operable to:*

receive a paddle card comprising a first paddle card operable to support a first communication protocol or a second paddle card operable to support a second communication protocol (Furner provides card slots to receive hardware devices (column 4, lines 13-15) and suggests a plurality of known card types (column 1, lines 39-50), wherein a skilled artisan would have been motivated by Furner's suggestion to incorporate the known paddle card taught by Pinault (column 1, lines 49-67));

identify the communication protocol supported by the received paddle card (Figure 5, Identification and Configuration mechanisms 501 and 502 identifies and configures the protocol for the card (column 19, line 54 to column 20, line 27; and column 28, line 60 to column 29, line 38));

receive a plurality of data packets from the received paddle card (Hardware device is a network interface card which receives packets from a network (column 7, line 58 to column 8, line 3) and the packets are communicated to the Processor 102 (column 10, lines 1-9));

process the data packets according to the identified communication protocol (Configuration mechanism binds the appropriate protocol to the network interface card (column 7, lines 65-66) wherein the packets are processed according to the bound protocol);

and

transmit the data packets to a switch card (Figure 1A, the Bus Controllers 108, 109 and 110 are switch cards since they provide the switching functions between the various

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buses and the Network Interface Card 112, and are mounted on a printed circuit board (column 1, lines 20-27) which is interpreted as a card).

14. *The logic of Claim 13, further operable to:*

receive a plurality of data packets from the switch card (Bus Controller 108 and 109 are switch cards for communicating packets between the CPU-Memory Bus 104 and the Primary I/O Buses including the bus coupled to the Network Interface Card 112);

process the data packets according to the identified communication protocol (Processor 102 processes data according to the bound protocol ((column 7, lines 65-66));
and

transmit the data packets to the received paddle card (Network Interface card 112 provides bi-directional communication with a network wherein packets are both received and transmitted).

15. *The logic of Claim 13, further operable to establish a link operable to communicate the data packets according to the identified communication protocol (Identification and Configuration System 119 and Drivers 121 in Run-Time Memory 101 provides the receiving control unit for establishing a link according to the identified protocol ((column 20, lines 5-28)).*

16. *The logic of Claim 13, further operable to select a first protocol state machine or a second protocol state machine (Drivers are protocol state machines since they drive the transmission and reception of packets depending on their current state --idle, transmit or receive) to establish a link operable to support the identified communication protocol (Identification and Configuration mechanisms 501 and 502 which are part of the receiving control unit selects the appropriate driver (column 20, lines 5-28)), the first protocol state machine operable to establish a link operable to support the first communication protocol, the second protocol state machine operable to establish a link operable to support the second communication protocol (The selected driver establishes the link operable according to the appropriate protocol).*

19. *A system for processing a data packet, comprising:*

means for receiving a paddle card comprising a first paddle card operable to support a first communication protocol or a second paddle card operable to support a

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second communication protocol (Furner provides card slots to receive hardware devices (column 4, lines 13-15) and suggests a plurality of known card types (column 1, lines 39-50), wherein a skilled artisan would have been motivated by Furner's suggestion to incorporate the known paddle card taught by Pinault (column 1, lines 49-67));

means for identifying the communication protocol supported by the received paddle card (Figure 5, Identification and Configuration mechanisms 501 and 502 identifies and configures the protocol for the card (column 19, line 54 to column 20, line 27; and column 28, line 60 to column 29, line 38));

means for receiving a plurality of data packets from the received paddle card (Hardware device is a network interface card which receives packets from a network (column 7, line 58 to column 8, line 3) and the packets are communicated to the Processor 102 (column 10, lines 1-9));

means for processing the data packets according to the identified communication protocol (Configuration mechanism binds the appropriate protocol to the network interface card (column 7, lines 65-66) wherein the packets are processed according to the bound protocol); and

means for transmitting the data packets to a switch card (Figure 1A, the Bus Controllers 108, 109 and 110 are switch cards since they provide the switching functions between the various buses and the Network Interface Card 112, and are mounted on a printed circuit board (column 1, lines 20-27) which is interpreted as a card).

20. A system for processing a data packet, comprising:

a paddle card slot (Furner provides card slots to receive hardware devices (column 4, lines 13-15) and suggests a plurality of known card types (column 1, lines 39-50), wherein a skilled artisan would have been motivated by Furner's suggestion to incorporate the known paddle card taught by Pinault (column 1, lines 49-67)) operable to:

receive a first paddle card operable to support a first communication protocol (Furner Figure 1B, hardware devices 148 can have various protocols identified by the hardware instance 150); and

receive a second paddle card operable to support second communication protocol (Furner Figure 1B, hardware devices 148 can have various protocols identified by the hardware instance 150); and

a packet processor (Furner Figure 1A, Processor 102 is coupled to Network Interface Card 112 in the slot on Primary I/O Bus 105) coupled to the paddle card slot, the packet processor (Identification and Configuration System 119 and Drivers 121 in Run-Time Memory 101 associated with the Processor 102 provides the receiving control unit for establishing a link according to the identified protocol ((column 20, lines 5-28)) comprising a first protocol state machine operable to establish a link operable to support the first communication protocol, and a second protocol state machine operable to establish a link operable to support the second communication protocol (Drivers are protocol state machines since they drive the transmission and reception of packets depending on their current state --idle, transmit or receive),

the packet processor operable to:

determine whether a received paddle card comprises the first paddle card or the second paddle card (Identification and Configuration System 119 is in the Run-Time Memory 101 associated with the Processor 102, Figures 1A and 1B);

identify the communication protocol supported by the received paddle card (Figure 5, Identification and Configuration mechanisms 501 and 502 identifies and configures the protocol for the card (column 19, line 54 to column 20, line 27; and column 28, line 60 to column 29, line 38));

select the first protocol state machine or the second protocol state machine to establish a link operable to support the identified communication protocol (Identification and Configuration mechanisms 501 and 502 which are part of the receiving control unit selects the appropriate driver (column 20, lines 5-28));

receive a plurality of data packets from the received paddle card (Hardware device is a network interface card which receives packets from a network (column 7, line 58 to column 8, line 3) and the packets are communicated to the Processor 102 (column 10, lines 1-9));

process the data packets according to the identified communication protocol (Configuration mechanism binds the appropriate protocol to the network interface card (column 7, lines 65-66) wherein the packets are processed according to the bound protocol);

transmit the data packets to a switch card (Figure 1A, the Bus Controllers 108, 109 and 110 are switch cards since they provide the switching functions between

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the various buses and the Network Interface Card 112, and are mounted on a printed circuit board (column 1, lines 20-27) which is interpreted as a card);

receive a plurality of data packets from the switch card (Bus Controller 108 and 109 are switch cards for communicating packets between the CPU-Memory Bus 104 and the Primary I/O Buses including the bus coupled to the Network Interface Card 112);

process the data packets according to the identified communication protocol (Processor 102 processes data according to the bound protocol ((column 7, lines 65-66)); and

transmit the data packets to the received paddle card (Network Interface card 112 provides bi-directional communication with a network wherein packets are both received and transmitted).

Allowable Subject Matter

5. Claims 5, 6, 11, 12, 17 and 18 are allowed.

6. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to anticipate or make obvious the additional features of associating the lanes of a paddle card with the plurality of ports, and the forwarding system with the first and second level.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvin Marcelo whose telephone number is 571-272-3125. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Melvin Marcelo
Primary Examiner
Art Unit 2662

December 8, 2005